

## Abstract

A “three dimensional” graphical user interface (GUI) that enables the navigation of an unstructured list of data elements; *e.g.*, search results of a database. The invention has the following features: (a) the data elements are classified within the leaf-nodes of a hierarchical category node tree; *e.g.*, a library structure; (b) the engine for building the GUI requires only the following two attributes per data element: (i) a text string indicating the category path, and (ii) a URL for accessing the data element, an optional element description may also be included; (c) the invention enables implementation of an XML Application Program Interface (API) since the GUI engine operates independently of the library structure associated with the accessed database; (d) the GUI displays one hierarchical level at a time; (e) all aggregate elements are presented with paths that are implied, *i.e.*, not expressly presented; (f) each level displays all matching sibling category nodes; and (g) any displayed category node can be “drilled-down” to the next lower hierarchical level of the category tree or drilled out to immediately access the data element. Further, in one GUI version, each node is presented as a circle with the node’s corresponding category name. The size of the circle indicates the number of elements aggregate to that node, relative to the total number of data elements. The aggregate data elements of a category node are those elements that are classified within any leaf-node that falls below such category node. This aggregate number of data elements is also displayed within the circle. In another version, the GUI displays a subset of the list of data elements with the elements aggregate to a category node explicitly displayed as icons arranged in a cluster around the node’s category name. Category names are color coded to indicate subsequent sub-categories. At any point during the GUI navigation,

selecting any displayed icon will either display an optional element description or allow the user to “drill-out” or directly access data on a desired element without having to completely “drill-down” or access each subsequent category level or sub category using the GUI.

HLB-1001-US  
November 15, 2001